

## **AMENDMENTS TO THE CLAIMS:**

The listing of claims will replace all prior versions, and listings of claims in the application:

### **LISTING OF THE CLAIMS**

1. (Currently amended) A printing workflow system disposed in a network environment for coordinating production of document processing jobs, said printing workflow system comprising:

a plurality of autonomous cells, wherein each autonomous cell is comprised of a plurality of devices and resources with at least some devices and resources performing distinct operations from one another, and that are configured to be capable of entirely completing at least one type of document processing job within said autonomous cell such that there is no dependence upon other autonomous cells for completing the a selected one type of document processing job;

a workflow mapping module that determines workflow for [[a]] the selected one of said document processing jobs by identifying operational steps and the a sequence of operations needed to be performed these operational steps necessary to complete said the selected document processing job;

a job decomposition module for splitting the selected document processing job into a plurality of autonomous sub-jobs that are accomplished by given ones of the autonomous cells, wherein splitting occurs based on the-determined difference differences between the said sequence of operations operational steps of the selected document processing jobs-job and further splitting may occurs-occur on [[a]] job- the autonomous sub-jobs containing the same sequence of operations operational steps to facilitate faster completion by using multiple devices;

a cell assignment module for assigning said autonomous sub-jobs to said given ones of the autonomous cells capable of entirely accomplishing entire-said autonomous sub-job sub-jobs; and

a product cell controller at a selected one of the given autonomous cells for receiving at least one of said autonomous sub-job sub-jobs and for further splitting said at least one autonomous-sub job into lots for processing among said plurality of devices in said selected autonomous cell, wherein a selected device within the plurality of devices

and resources uses a kanban based pull control policy to request work by sending authorization to the upstream product cell controllers to supply said device with the ~~necessary input~~ authorized work.

2. (Canceled)

3. (Previously presented) The printing workflow system of claim 1 further comprising a storage device for holding information regarding capacities and capabilities of said cells and for storing information regarding workflow of each document processing job said workflow comprising a sequence of operations needed to be performed to accomplish the selected document processing job.

4 - 5. (Canceled)

6. (Currently amended) The printing workflow system of claim 3 wherein said product cell controller splits said autonomous sub-jobs into optimal lot sizes determined by analyzing said workflow of said selected document processing job, wherein said document processing sub-job is split into smaller lots for optimal utilization of said autonomous cells ~~devices~~ such that as one said autonomous cell device processes one said lot, another said autonomous cell device processes another said lot, simultaneously.

7. (Currently amended) The printing workflow system of claim 6 wherein said product cell controller assigns a number of ~~[""]~~kanbans~~[""]~~ to said lots as workflow control elements.

8. (Currently amended) The printing workflow system of claim 7 wherein said product cell controllers send authorization in the form of ~~[""]~~kanbans~~[""]~~ to upstream devices calling for said upstream devices to supply said autonomous cell-cells~~devices~~ a with next said lot and wherein said assigned ~~[""]~~kanbans~~[""]~~ are released as said lots are processed and said ~~assigned~~ assigned ~~[""]~~kanbans~~[""]~~ become available for future authorization of future lots.

9. (Currently amended) A method used in a print workflow system disposed in a network environment for coordinating production of document processing jobs, said method comprising:

partitioning document processing devices and resources into a plurality of autonomous cells capable of entirely completing at least one type of document processing job within said autonomous cell such that there is no dependence upon other cells for completing the document processing job;

determining workflow for a selected one of said document processing jobs by identifying a sequence of operations ~~operational steps and the sequence of these operational steps~~ necessary to complete said document processing job;

splitting a selected document processing job into a plurality of autonomous sub-jobs that are able to be entirely accomplished by given ones of the autonomous cells, wherein splitting occurs based on the a determined difference between the sequence of operations ~~operational steps~~ of the document processing jobs and further splitting selectively occurs on ~~[[a]]~~ another document processing job containing an identical sequence of operations ~~operational steps~~ to facilitate faster completion by using multiple devices;

assigning said document processing sub-jobs to said given ones of the autonomous cells capable of accomplishing ~~entire~~ a selected one of the autonomous said sub-job sub-jobs; and

receiving at a selected one of the given cells at least one of the autonomous sub-job sub-jobs and further splitting said one autonomous sub-job into lots for processing among devices and resources in said selected autonomous cell, wherein a device within the plurality of devices and resources use a kanban based pull control policy to request work by sending authorization to the upstream product cell controller to supply said device with ~~the necessary input by~~ authorized work; including,

- a) splitting said autonomous sub-job into optimal lot sizes determined by analyzing said workflow of said selected document processing job, whereby said autonomous sub-job is split into smaller lots for optimal utilization of said cell devices;
- b) ~~step~~-assigning a number of ~~[[ ]]~~kanbans~~[[ ]]~~ to said lots as workflow control elements; and
- c) sending authorization in the form of ~~[[ ]]~~kanbans~~[[ ]]~~ from cell devices to upstream devices calling for said upstream devices to supply said selected cell devices with a

next said lot and wherein said assigned ~~[[a]]~~kanbans~~[[a]]~~ are released as said lots are processed and said assigned ~~[[a]]~~kanbans~~[[a]]~~ become available for future authorization of future lots.

10. (Canceled)

11. (Currently amended) The method recited in claim 9 further comprising holding information regarding capacities and capabilities of said cells and for storing information regarding workflow of each document processing job, said workflow being comprised of ~~[[a]]~~the sequence of operations needed to be performed to accomplish the selected document processing job.

12 - 24. (Canceled)

25. (Previously presented) The printing workflow system of claim 3 wherein the workflow mapping module uses said information to determine a workflow for a selected document processing job and the job decomposition module uses said workflow to split said document processing job into autonomous sub-jobs.

26. (Currently amended) The printing workflow system of claim 25 wherein the cell assignment module uses said workflow to assign said autonomous sub-jobs to given ones of said autonomous cells capable of accomplishing entire-said sub-job.

27 - 28. (Canceled)

29. (Currently amended) The method recited in claim 11 wherein ~~the a step of determining uses said information to determine said workflow for a selected document processing job and the job decomposition module uses said~~ determined workflow ~~to split for the splitting of~~ said document processing job into autonomous sub-jobs.

30. (Currently amended) The method recited in claim 29 wherein the ~~cell step of~~ assigning the autonomous cells uses said workflow to assign said autonomous sub-jobs to

given ones of said autonomous cells capable of accomplishing ~~entire~~ said autonomous sub-job.

31. (Canceled)